



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/803,142

03/18/2004

Toshio Sugiura

118187

7126

25944

7590

04/25/2005

OLIFF & BERRIDGE, PLC
P.O. BOX 19928
ALEXANDRIA, VA 22320

EXAMINER

COLILLA, DANIEL JAMES

ART UNIT

PAPER NUMBER

2854

DATE MAILED: 04/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/803,142

Applicant(s)

SUGIURA ET AL.

Examiner

Daniel J. Colilla

Art Unit

2854

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 13-19, 23 and 24 is/are rejected.
- 7) ☒ Claim(s) 8-12 and 20-22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/25/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: in paragraph [0039], line 1 it appears that --chamber-- should come after "pressure."

Appropriate correction is required.

Claim Objections

2. Claim 23 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Applicant has not recited any structure in this claim, instead applicant has recited functional language of how the previously recited structure is to be used. Since the claim is an apparatus claim, the claim must be limited by reciting further structural limitations. See MPEP § 2114.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

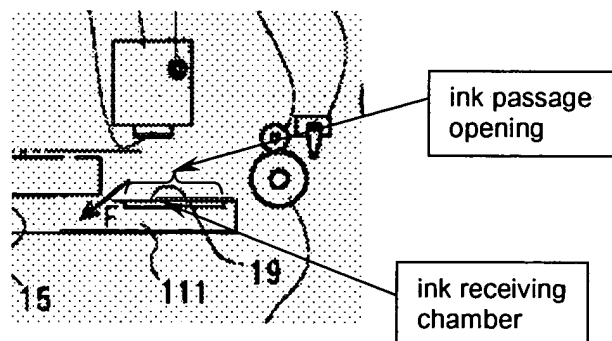
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5, 13 and 23-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Seshimo (JP 2003-39758).

With respect to claims 1 and 24, Seshimo discloses an image forming apparatus including an image forming device 61,62 that forms an image on a sheet P by ejecting ink, a sheet feed table 12 facing the an ink ejection direction of the image forming device as shown in Figure 2 of Seshimo, and a sheet feeding mechanism 53,54 for feeding a sheet P in a sheet feeding direction. Seshimo further discloses at least one air suctioning portion 17 that is formed on the surface region of the sheet feed table 12 at a downstream side of an image forming region as shown in Figures 1 and 2 of Seshimo and an air suctioning device 13 that sucks ink through the air suctioning portion 17 (see paragraphs [0025]-[0026] of the machine translation of Seshimo). Seshimo also discloses an ink receiver 19 that receives ink ejected from the image forming device 61,62 and that is disposed in the image forming region as shown in Figures 1-2 of Seshimo.

With respect to claim 2, to the extent that applicant has disclosed, the ink receiver 19 does not communicate with the air suctioning portion 17.

With respect to claim 3, Seshimo discloses an ink passage opening and an ink receiving chamber as shown below in the Figure taken from Figure 6 of Seshimo:



With respect to claim 4, Seshimo discloses portion 19 as an “ink absorbent” (see paragraph [0043] of the machine translation). Thus the chamber contains an ink absorber that absorbs ink.

Art Unit: 2854

With respect to claim 5, Seshimo discloses that the image forming device includes a carriage 61 and a print head 62 mounted on the carriage; the carriage reciprocating in a direction perpendicular to the sheet feeding direction as shown in Figure 1 of Seshimo. Although it is not shown, the ink passage opening must extend at least to some amount in the carriage moving direction in the image forming region for it to be effective in absorbing ink ejected from the print head 62.

With respect to claim 13, paragraph [0025] of the machine translation of Seshimo discloses that the air suctioning device is activated to attract ink mist which only would occur while the image forming device ejects ink.

With respect to claim 23, since applicant has not recited any additional structure in this claim to further limit its parent claim, it is rejected along with its parent claim, claim 1.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seshimo (JP 2003-39758) as applied to claims 1-5, 13 and 23-24 above, and further in view of Hirose (JP 5-286129).

With respect to claim 6, Seshimo discloses the claimed image forming apparatus except that it is not known to the examiner if the ink passage opening is divided into a plurality of

Art Unit: 2854

portions in the carriage moving direction. However Hirose discloses an image forming apparatus with an ink passage opening that is divided into a plurality of portions in the carriage moving direction as shown in Figures 6-7 of Hirose. The opening is divided by members 44 with guide as shown in Figure 6 of Hirose. It would have been obvious to combine the teaching of Hirose with the image forming device disclosed by Seshimo for the advantage of a large ink receiving opening that can be used with sheets of a variety of widths such that the sheets can be printed without white space in the margins and so that excess ink that doesn't land on the sheet can be absorbed by the ink absorbing member 42.

With respect to claim 7, Seshimo discloses a single chamber as mentioned above and Hirose teaches providing a single ink absorber 42 that communicates with all of the plurality of portions of the ink passage opening as shown in Figure 6 of Hirose.

7. Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Seshimo (JP 2003-39758), as applied to claims 1-5, 13 and 23-24 above, and further in view of Nakamura (JP 1-275090).

With respect to claim 14, Seshimo discloses the claimed image forming apparatus except for the detector. However, Nakamura teaches an image forming apparatus including a width detector 6, disposed on a carriage 3, which applies light to a sheet feed table 11 and receives the reflected light as shown in Figures 1-2 and 4 of Nakamura. It would have been obvious to combine the teaching of Nakamura with the image forming apparatus disclosed by Seshimo for the advantage of determining how wide the printing medium is so that the carriage does not needlessly travel past the edge of the printing medium.

With respect to claim 15, Nakamura discloses a stepped down portion 25 in the sheet feed table 11.

8. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over by Seshimo (JP 2003-39758), as applied to claim 1-5, 13 and 23-24 above, and further in view of Matsuhashi (US 5,997,129).

Seshimo discloses the claimed image forming apparatus except for the ink discharge passage through which ink is sucked from the ink receiver. However, Matsuhashi teaches an image forming apparatus with an ink receiver 211 that has an ink discharge passage 215 through which ink is sucked as shown in Figure 8 of Matsuhashi (col. 10, lines 51-57). It would have been obvious to combine the teaching of Matsuhashi with the image forming apparatus disclosed by Seshimo for the advantage of draining the ink in the ink receiver so that it does not overflow or backup.

9. Claims 6 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seshimo (JP 2003-39758) as applied to claims 1-5, 13 and 23-24 above, and further in view of Kodama et al. (US 2005/0078147).

With respect to claim 6, Seshimo discloses the claimed image forming apparatus except that it is not known to the examiner if the ink passage opening is divided into a plurality of portions in the carriage moving direction. However Kodama discloses an image forming apparatus with an ink passage opening that is divided into a plurality of portions in the carriage moving direction as shown in Figures 11-12 of Kodama et al. It would have been obvious to

Art Unit: 2854

combine the teaching of Kodama et al. with the image forming device disclosed by Seshimo for the advantage of printing a sheet up to the very edge of the sheet without leaving any white margins so that excess ink that doesn't land on the sheet can be absorbed by the ink absorbing member 42.

With respect to claim 17, ribs 14a and 14b, located on the surface of sheet feed table 3 divide the ink passage opening into the plurality of portions as shown in Figure 12 of Kodama et al.

With respect to claim 18, in Figure 12 Kodama et al. shows that the ribs 14a and 14b extend in the ink ejection direction to touch the top of ink absorbers 7.

With respect to claim 19, while Kodama et al. only teaches one rib crossing the ink passage opening dividing it into two areas, the provision of additional ribs to provide additional areas would have been obvious to allow various widths of sheets to be printed while absorbing the ink that does not land on the edge of the sheet (See MPEP § 2144.04, part VI, B).

Allowable Subject Matter

10. Claims 8-12 and 20-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 2854

11. The following is a statement of reasons for the indication of allowable subject matter:

Claims 8-12 have been indicated as containing allowable subject matter primarily for the ink passage opening and the ink receiving chamber that is formed between the upper surface and the bottom surface of the sheet feed table.

Claim 20 has been indicated as containing allowable subject matter primarily for the suction opening in each of the areas divided by the ribs.

Claim 21 has been indicated as containing allowable subject matter primarily for the protrusion that is connected to each end of the ribs.


Claim 22 has been indicated as containing allowable subject matter primarily for the plurality of roller disposed between the pair or ribs.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Colilla whose telephone number is (571) 272-2157. The examiner can normally be reached Mon.-Thur. between 7:30 am and 5:00 pm. Faxes regarding this application can be sent to (703) 872-9306.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached at (571) 272-2168. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

April 19, 2005


Daniel J. Colilla
Primary Examiner
Art Unit 2854